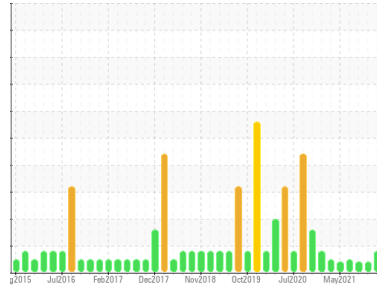


PROBLEM SUMMARY

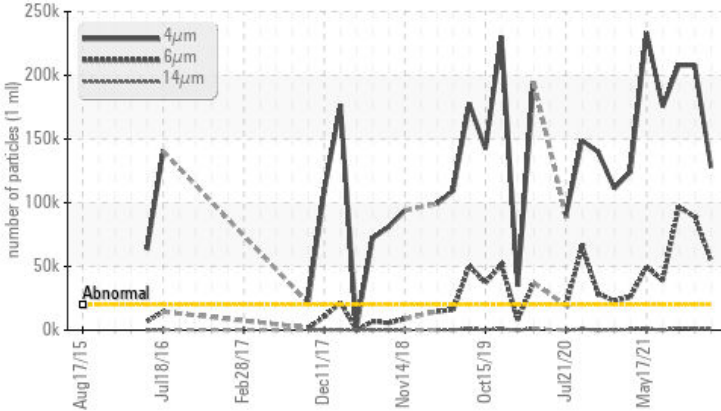
Area
Cranes [450159533]
 Machine Id
Crane - Aft - Hoisting Winch (S/N Sample Tag MA-04001-S5)
 Component
Winch
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (8 LTR)

Sample Rating Trend



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status		ATTENTION	ATTENTION	ABNORMAL
Particles >14µm	ASTM D7647 >640	▲ 1042	▲ 1032	▲ 1550
Oil Cleanliness	ISO 4406 (c) >21/19/16	▲ 24/23/17	▲ 25/24/17	▲ 25/24/18

Customer Id: TERHAM
 Sample No.: PC0052194
 Lab Number: 02568336
 Test Package: MAR 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Kevin Marson +1 (289)291-4644 x4644
Kevin.Marson@wearcheck.com

To change component or sample information:
 Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component.

HISTORICAL DIAGNOSIS

29 Nov 2021 Diag: Kevin Marson

ISO



We recommend you service the filters on this component. Resample at the next service interval to monitor. All component wear rates are normal. There is a light amount of silt (particulates < 14 microns in size) present in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



20 Sep 2021 Diag: Kevin Marson

ISO



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. Particles >14µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



01 Aug 2021 Diag: Kevin Marson

NORMAL

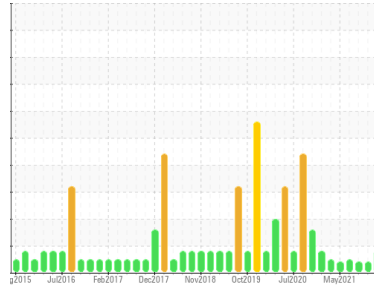


Resample at the next service interval to monitor. All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



Area
Cranes [450159533]
 Machine Id
Crane - Aft - Hoisting Winch (S/N Sample Tag MA-04001-S5)
 Component
Winch
 Fluid
PETRO CANADA GEARLUBE TOS 80W90 (8 LTR)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a light amount of silt (particulates < 14 microns in size) present in the oil.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history 1	history 2
Sample Number	Client Info			PC0052194	PC0039829	PC0040146
Sample Date	Client Info			14 Jun 2023	29 Nov 2021	20 Sep 2021
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			N/A	N/A	N/A
Sample Status				ATTENTION	ATTENTION	ABNORMAL

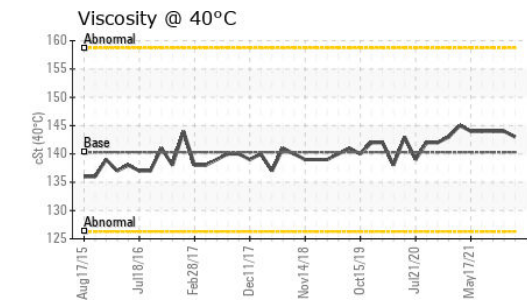
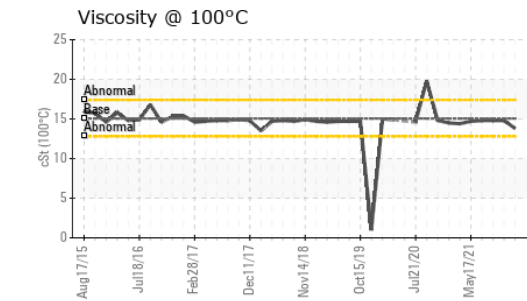
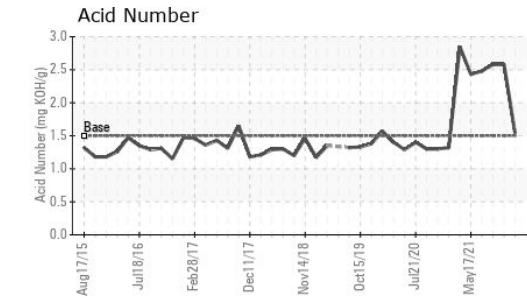
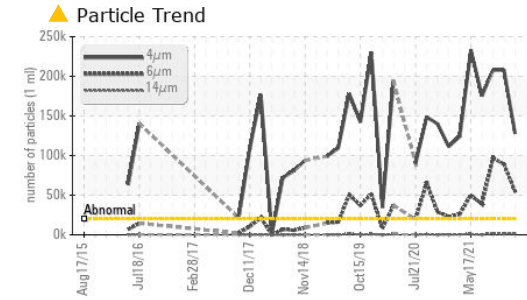
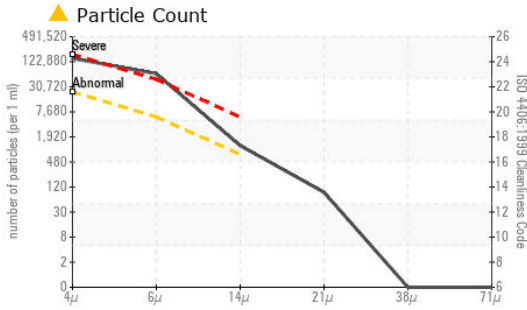
WEAR METALS		method	limit/base	current	history 1	history 2
PQ		ASTM D8184*		0	0	0
Iron	ppm	ASTM D5185(m)	>30	6	12	9
Chromium	ppm	ASTM D5185(m)	>2	0	0	0
Nickel	ppm	ASTM D5185(m)	>2	<1	<1	<1
Titanium	ppm	ASTM D5185(m)	>2	<1	0	0
Silver	ppm	ASTM D5185(m)	>2	<1	<1	<1
Aluminum	ppm	ASTM D5185(m)	>5	<1	7	7
Lead	ppm	ASTM D5185(m)	>70	0	<1	<1
Copper	ppm	ASTM D5185(m)	>65	<1	<1	<1
Tin	ppm	ASTM D5185(m)	>9	0	0	0
Antimony	ppm	ASTM D5185(m)	>5	0	<1	0
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		<1	0	0

ADDITIVES		method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185(m)	240	199	157	174
Barium	ppm	ASTM D5185(m)	1	0	0	0
Molybdenum	ppm	ASTM D5185(m)	0.0	0	0	0
Manganese	ppm	ASTM D5185(m)		<1	<1	<1
Magnesium	ppm	ASTM D5185(m)	2	2	<1	2
Calcium	ppm	ASTM D5185(m)	6	4	10	13
Phosphorus	ppm	ASTM D5185(m)	1000	1020	915	945
Zinc	ppm	ASTM D5185(m)	3	20	80	81
Sulfur	ppm	ASTM D5185(m)	19400	18958	17837	18650
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS		method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185(m)	>30	4	5	6
Sodium	ppm	ASTM D5185(m)		1	2	2
Potassium	ppm	ASTM D5185(m)	>20	<1	8	<1

FLUID CLEANLINESS		method	limit/base	current	history 1	history 2
Particles >4µm		ASTM D7647	>20000	127861	207919	207948
Particles >6µm		ASTM D7647	>5000	54810	89180	96644
Particles >14µm		ASTM D7647	>640	▲ 1042	▲ 1032	▲ 1550
Particles >21µm		ASTM D7647	>160	79	106	167
Particles >38µm		ASTM D7647	>40	0	0	4
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ 24/23/17	▲ 25/24/17	▲ 25/24/18

OIL ANALYSIS REPORT



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0052194 **Received** : 06 Jul 2023
Lab Number : **02568336** **Diagnosed** : 07 Jul 2023
Unique Number : 5605382 **Diagnostician** : Kevin Marson
Test Package : MAR 2 (Additional Tests: KV100, PQ, PrtCount, TAN Man, VI)

To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.

FLUID DEGRADATION

method	limit/base	current	history 1	history 2	
Acid Number (AN) mg KOH/g	ASTM D974*	1.5	1.54	2.58	2.58

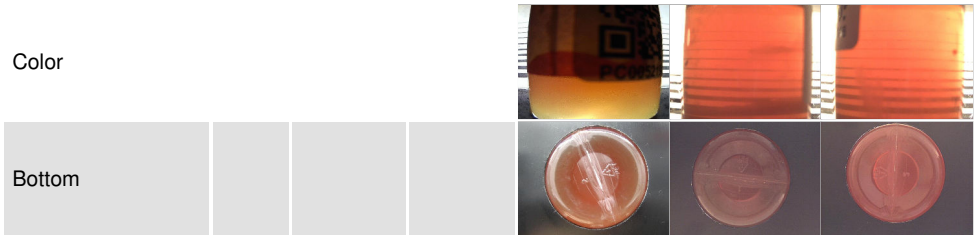
VISUAL

method	limit/base	current	history 1	history 2	
White Metal	scalar Visual*	NONE	NONE	NONE	NONE
Yellow Metal	scalar Visual*	NONE	NONE	NONE	NONE
Precipitate	scalar Visual*	NONE	NONE	NONE	NONE
Silt	scalar Visual*	NONE	NONE	NONE	NONE
Debris	scalar Visual*	NONE	NONE	NONE	VLITE
Sand/Dirt	scalar Visual*	NONE	NONE	VLITE	NONE
Appearance	scalar Visual*	NORML	NORML	NORML	NORML
Odor	scalar Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar Visual*	>0.2	NEG	NEG	NEG
Free Water	scalar Visual*		NEG	NEG	NEG

FLUID PROPERTIES

method	limit/base	current	history 1	history 2	
Visc @ 40°C	cSt ASTM D7279(m)	140.3	143	144	144
Visc @ 100°C	cSt ASTM D7279(m)	15.05	13.8	14.8	14.8
Viscosity Index (VI)	Scale ASTM D2270*	109	91	102	102

SAMPLE IMAGES



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